

DESCRIPTION OF FIVE NEW FISHES FROM THE
AUSTRALASIAN REGION.

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In the following paper I have given descriptions of five species supposed to be new to science, two (*Gillichthys australis*, and *Clinus whiteleggii*) being from the coast of New South Wales, and one each from Queensland (*Ophioclinus devisi*), Lord Howe Island (*Petroscirtes icelii*), and New Zealand (*Eleotris huttoni*).

GILLICHTHYS AUSTRALIS, sp.nov.

B. vi. D. 6. 1/7. A. 1/6. V. 1/5. P. 14. C. 12. L. lat. 28.
L. tr. 8.

Length of head $3\frac{7}{8}$, height of body $4\frac{2}{5}$ in the total length; height of head $1\frac{3}{10}$, width of head $2\frac{1}{3}$ in its length. Eye moderate, lateral; its diameter $4\frac{1}{3}$ in the length of the head; snout obtusely rounded, its length three-fourths, interorbital space half the diameter of the eye. Lower jaw the longer; cleft of mouth large and oblique, the maxilla extending to one diameter of the eye behind the eye. Upper profile of head abruptly convex. A pair of large open pores about the middle of the interorbital space. A pair of small canines in front of each jaw. Dorsals subequal in height, separated by a moderate interspace, the distance between the base of the last spine and the origin of the soft dorsal equal to the base of the dorsal spines; all the spines more or less produced, the anterior the highest, not quite so high as the body: anal papilla small; the anal commences beneath the third and ends beneath the last dorsal ray; its fifth ray is the longest, and exceeds in height the dorsal rays: ventral reaching to the vent: pectoral rather pointed, reaching to the vertical from the origin of the anal, its length $1\frac{1}{2}$

in that of the head; none of the rays silk-like: caudal rounded, $5\frac{1}{3}$ in the total length. Scales angular, striated, and finely ctenoid, not much smaller anteriorly; occiput and opercle scaly, rest of the head naked; throat and base of the pectoral scaly.

Colours.—Head above brown, below purple, the latter colour including the maxilla; cheeks and opercles golden brown; two purple bands from behind the eye to the upper angle of the opercle, where they join; a third inconspicuous band partially crossing the cheek; body and tail pale brown, the anterior portion blotched above with dark brown and red, uniform below; the caudal portion with five slightly oblique transverse bands of a dark brown colour, more or less profusely studded with bright red spots. Dorsal fins gray marbled with dark reddish; anal and ventrals closely dotted with black; pectorals gray, with the base yellow; caudal gray, with irregular transverse bands of blackish spots.

I was inclined at first to consider that the Goby described above was Günther's *Gobius macrostoma* (Catal. Fish. iii. p. 44), a name which was subsequently altered to *microphthalmus* (o.c. p. 550) the earlier title having been previously used by Steindachner. In view, however, of the slight difference in the length of our respective specimens (B.M. 44 mm., mine 38), and of the wide variation in some of the characters, it is necessary to apply a distinctive appellation to my fish.

The most important of the variations referred to above are—the number of scales between the origin of the soft dorsal and the anal fins—*microphthalmus* 10, *australis* 8; the much lower body in my species—*microphthalmus* $3\frac{3}{5}$, *australis* $4\frac{2}{5}$ in the total length; the much larger eye—*microphthalmus* $\frac{1}{7}$, *australis* $\frac{2}{13}$ in the length of the head; and the much more elongated maxilla, which in Günther's fish only extends to the vertical from the posterior margin of the eye; this character is, of course, accentuated by the greatly increased size of the eye in my form, compared with *Gillichthys microphthalmus*.

The specimen was collected at Jervis Bay, among oysters, by Mr. Thomas Whitelegge, and measures 38 millimetres.

Type in the Australian Museum, Sydney.

Register number, I. 3171.

ELEOTRIS HUTTONI, sp.nov.

B. v. D. 6. 1/8. A. 1/9. V. 1/5. P. 19. C. 14. L. lat. 37. L. tr. 9.

Length of head $4\frac{1}{4}$, height of body $6\frac{7}{10}$ in the total length; height of head $1\frac{3}{4}$, width $1\frac{1}{2}$ in its length. Eye large, its diameter $3\frac{4}{5}$ in the length of the head; snout short, obtusely rounded, four-fifths of the diameter of the eye; inter-orbital space narrow and concave, its breadth less than a third of the same. Jaws equal; cleft of mouth very oblique, the maxilla scarcely reaching to the anterior margin of the orbit. Upper profile of head very slightly convex. Head without open pores or distinct series of warts. Jaws with a band of small hooked teeth, the outer row much enlarged. Dorsal spines weak, four-sevenths of the height of the body, and much lower than the rays, which are longest posteriorly: anal papilla moderate; the anal commences beneath the third dorsal ray and is continued to some distance behind the base of the second dorsal: ventral moderate, not reaching to the vent, two-thirds of the length of the head: pectoral large, subcuneiform, not quite so long as the head: caudal rounded, $5\frac{1}{3}$ in the total length. Scales on the body strongly ctenoid, on the occiput and opercle cycloid; rest of the head scaleless; occipital scales not reaching to between the posterior margins of the orbits, preceded by a closed pore; three series of scales between the dorsals.

Colours.—Uniform yellowish brown: vertical fins hyaline, the upper half of the first dorsal brownish orange; second dorsal with two or three irregular series of spots on its outer half; anterior rays of the anal brownish; other fins pale brown.

The specimen from which the above description was taken is in the collection of the Australian Museum, and is labelled "Waikato River, New Zealand;" it measures 65 millimetres.

From *E. gobioides*, C.V., which is more nearly allied to it than the second New Zealand species given by Hutton (Trans. N.Z. Inst., xxii., 1889, p. 280,) *E. radiata*, Q.G., it differs principally in having fewer dorsal rays (*huttoni* 8, *gobioides* 10), fewer scales between the origin of the soft dorsal and the anal (*huttoni* 9, *gobioides* 10 or 11), a much lower body (*huttoni* $6\frac{7}{10}$, *gobioides* $5\frac{1}{2}$ in the total length), a smaller head (*huttoni* $4\frac{1}{4}$, *gobioides* $3\frac{3}{4}$ in the same), a greatly enlarged eye (*huttoni* $3\frac{4}{5}$, *gobioides* 6 in the head), and in the equal length of both jaws.

I have much pleasure in dedicating this species to Capt. Hutton, whose researches have tended so much to elucidate the history of the New Zealand fishes.

Type in the Australian Museum, Sydney.

Register number, I. 3162.

PETROSCIRTES ICELII, sp.nov.

B. vi. D. 31. A. 22. V. 3. P. 14. C. 11.

Length of head $5\frac{1}{3}$, height of body $8\frac{2}{3}$ in the total length. Eye large, with the supraorbital ridge prominent, its diameter $3\frac{1}{5}$ in the length of the head, and equal to that of the snout; interorbital space concave, five-sixths the diameter of the eye. Upper jaw overhanging; cleft of mouth wide, the maxilla extending to beneath the posterior third of the orbit. Dorsal profile of snout convex, of occiput flat. Head without tentacles. Body elongate. Maxillary teeth thirty, mandibulary thirty-two in number; upper canines scarcely longer than the incisors; the lower strong and curved, half a diameter of the eye. The dorsal fin commences above the gill-opening; it is without a trace of a notch, the rays being subequal in length, with free tips, and rather more than the height of the body: the anal fin commences beneath the twelfth dorsal ray, and is similar to but not so high as the dorsal: ventral inserted slightly in advance of the dorsal; its length $1\frac{2}{3}$ in that of the head: pectoral a little longer than the ventral: caudal rounded, with the tips of the rays free, equal in length to the head.

Colours.—Head horn colour, lips black, throat and body sandy ; a broad, irregular black band traverses the whole length of the body, rather nearer to the dorsal than to the ventral surface ; above the anal fin this band is crossed by five or six vertical bars, which extend more or less distinctly on to the dorsal and anal fins ; a black spot at the base of the caudal fin. Incisor teeth in both jaws tipped with gold.

The type specimen of this distinct species was brought from Lord Howe Island by Mr. T. R. Icely, the visiting magistrate, after whom I am pleased to be in a position to name it. There are three other examples from the same locality in the Australian Museum Collection, all of which agree accurately with the type. This species is closely allied to *P. variabilis*, Cantor.

Length of type specimen 119 millimetres.

Type in the Australian Museum, Sydney:

Register number, I. 3127.

CLINUS WHITELEGGII, sp.nov.

B. vi. D. 2/28/2. A. 2/20. V. 1/2. P. 10. C. 12.

Length of head $4\frac{1}{5}$, height of body $6\frac{1}{10}$ in the total length. Diameter of eye $3\frac{2}{3}$ in the length of the head ; snout obtuse, seven-eighths, interorbital space concave, half of a diameter of the eye. Jaws equal ; cleft of mouth very oblique, the maxilla extending to beneath the middle of the orbit. Nasal tentacle double, the outer and longer branch trifurcate ; orbital tentacle small and triangular, with the basal portion slender. Upper profile of head abruptly sloping. A row of stout curved teeth and a symphyseal patch of smaller teeth in both jaws. The dorsal fin commences above the hinder margin of the preopercle ; the second spine is widely separated from the first, and from the third, with which it is connected by a deeply notched membrane ; the spines increase in height gradually to the last, which is five-sixths of the height of the body and equal to the first ray ; last ray separated by an interspace from the penultimate, its membrane just reaching beyond the base of the caudal : the anal commences

beneath the twelfth dorsal spine; its last ray has only a minute membrane: ventral rays subequal, not nearly reaching to the vent, four-sevenths of the length of the head: pectorals pointed, the sixth ray the longest, extending to the vertical from the first anal ray, two-thirds of the head: caudal small and emarginate, $8\frac{9}{16}$ in the total length. Scales minute, the head naked with numerous series of small open pores. Lateral line curving downwards above the vent.

Colours.—Deep purplish red above, the sides of the head mottled red and yellow; a dark spot in front and a dark vertical band below the eye; below the lateral line the ground colour is paler, and is crossed by several dark transverse bands: dorsal and anal fins transparent, the former with six, the latter with eight transverse purple bands, the rays banded gray and yellow; ventrals, pectorals, and caudal pale yellow with transverse series of small red spots.

This handsome and very distinct species was obtained by my friend, Mr. Thomas Whitelegge, under stones between tidemarks on the oyster beds at Jervis Bay. The length of the specimen is 55 millimetres.

I have great pleasure in naming it after its discoverer.

Type in the Australian Museum, Sydney.

Register number, L. 3175.

OPHIOCLINUS.

Ophioclinus, Casteln. Proc. Zool. Soc. Vic. 1873, ii. p. 69.

Scleropteryx, De Vis (*Museum name*).

Branchiostegals five. Body elongate and compressed, tæniiform. Snout short and rounded. Gill-membranes united, free from the isthmus. Eye lateral. Teeth in the jaws and on the vomer stout, conical; present or absent on the palatines*, no lingual teeth;

* Castelnau describes *O. antarcticus* as having "small, thick, blunt teeth on the palatine bones;" a very careful examination has, however, failed to detect the existence of palatine teeth in the present species.

pharyngeal teeth in two patches, conical. Dorsal fin long, almost entirely composed of spines; anal with one spine and many soft rays; ventrals rudimentary, jugular; no pectorals; caudal fin distinct, connected with the dorsal and anal. Minute, scattered, rudimentary scales, imbedded in the skin, present on the caudal region of the body only. A single, indistinct, median lateral line.

OPHIOCLINUS DEVISI, sp.nov.

B. v. D. $70/3$ ca. A. $1/55$ ca. V. $1/2$. C. 12.

Length of head $6\frac{3}{4}$ to 7, height of body 15 to $15\frac{3}{4}$ in the total length; height of head rather less than its width. Eye large its diameter $5\frac{1}{4}$ to $5\frac{3}{4}$ in the length of the head; snout short and rounded, its length about seven-eighths of the diameter of the eye, interorbital space flat, $1\frac{1}{3}$ to $1\frac{1}{2}$ in the same. Lower jaw the longer; cleft of mouth oblique, the maxilla reaching to beneath the middle of the orbit: upper profile of snout convex, of occiput flat; opercular region elongate, tumid. Series of large open pores around the orbits, the margins of the preopercles, on the occiput, and the nuchal region. Teeth in the upper jaw stout and conical, in three series anteriorly, the outer of which is continued on the sides; in the lower jaw in a single series, much stronger than those of the maxillaries; a few scattered teeth on the vomer; pharyngeal teeth similar to those of the upper jaw, arranged in two arcuate patches. The dorsal fin commences a short distance behind the opercular flap; the spines are strong, and, with the exception of a few anterior ones which are short, subequal in height, about a half of that of the body: the distance between the snout and the origin of the anal is $2\frac{1}{2}$ in the total length; anal papilla little developed. A single lateral line along the middle of the body, straight.

Colours (in spirits).—Uniform reddish brown, the occiput and opercles with a yellowish tinge.

This interesting species belongs to the Xiphidiontid section of the *Blenniidae*; the two specimens available for examination

measure respectively 75 and 79 millimetres, the smaller of which is broken in two pieces; they form part of a collection obtained from the Queensland Museum some years since, and were labelled *Scleropteryx bicolor*; no description of a fish under this name ever appears to have been published by Mr. De Vis, nor do I consider it advisable to form a new generic name, as it approaches sufficiently close to Castelnau's *Ophioclinus*, and our knowledge of that genus is so limited. The specific name *bicolor* is, at least now, after having been so long in spirits, unsuitable, and I have, therefore, named it after its original collector; the species is a native of Moreton Bay.

The genus *Ophioclinus* appears to be most nearly allied to *Apodichthys* and *Anoplarcus*; from the former it differs in the absence of a continuous scaly covering, the presence of an obscure lateral line, the absence of pectorals, &c., while from the latter it differs in the formation of the gill-membranes and the dentition.

The presence of palatine teeth and of short filaments on the snout, as recorded by Castelnau, neither of which characters can be detected in this fish, possibly because of the bad state of my specimens, may eventually necessitate the formation of a genus, but such a course is at present premature. The neglect of Castelnau to even mention the pectorals is negative evidence as to their existence in his genus.

Type in the Queensland Museum, Brisbane.

Register number, I. 362.